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Low Back Pain from the Orthopedic Standpoint

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LOW back pain is a controversial subject, in which views differ and opinions conflict.

Patients often yearn for magic in the relief of their distress. At least it is natural that they want help, want it quickly and want the physician to provide a cure without sustained effort on the part of the patient. When relief appears, the patient and too often the physician credit the recovery to a certain therapy really not responsible for the happy turn of events, though often this is not the final episode of trouble.

It is not realized that low back pain is frequently episodal in nature with periods of distress and periods of remission. It has been said that a man in his lifetime has about thirty serious illnesses, and it stands to reason that he makes some sort of recovery 29 times. Whoever the physician is at the time of recovery and whatever the method used, no matter how bizarre, that physician, or that method will likely be credited with a cure.

HISTORICAL

Low back pain has worried mankind since records have been kept and without doubt before records were kept, back to the time when our forefathers went on all fours or hung from trees. The aphorism of Hippocrates, No. LX, states: "Those that have their hip bone come out upon a long continued pain of Sciatica, shall have their Thigh wasted, and halt, unless they be burnt for it." The above was quoted by C. J. Sprengell, M.D.,* of London, in 1708, and he described how he carried out the ancient advice:

* Cotugno, in 1764, has been credited with origination of the term sciatica.¹⁰

Read as a part of the panel discussion of back pain before the sections on General Medicine, General Practice, Radiology, and Neuropsychiatry, and General Surgery at the 76th Annual Session of the California Medical Association in Los Angeles, April 30-May 3, 1947.

"By burning three holes about the Joint of the Os Coxis with the Moxa,[†] I have myself (according to the advice of this aphorism) lately cured a young Gentleman, whose joint was so far relaxed, that one might very well lay ones thumb betwixt the Joints, he being very lean withal, and therefore used the Milk Diet mixed with the Testaceous Powders, to the great advantage and Remedy."¹⁵ Thus the hip joint was considered the source of the sciatica. Later it was the sacro-iliac joint, and now it is the lumbo-sacral joint. Theories were necessary when facts were wanting. Facts are still wanting and theories are still necessary.

With the Twentieth Century came the careful work of Goldthwaite, of Boston.⁵ It is startling to see how exactly he portrayed the posterior protrusion of the intervertebral disc in his illustration (Figure 1). He was very much aware of difficulty from the lumbo-sacral joints, but blamed a considerable portion of back disabilities upon the sacro-iliac joints and their ligaments, describing strains and subluxations of the joints.

The statistics of the 'teens and twenties were particularly limited by the factors that limit us today: (1) A lack of complete knowledge of basic facts, (2) Too short a follow-up in patients subject to disabilities of an episodal, recurrent nature, (3) Lack of a control series, (4) Our need to use theory when all facts are not at hand. C. J. Sprengell, M.D., in 1708, in his series of one case gave the impression that without his services the state of the patient would have been sad indeed. Likely, he did not consider what might have happened with rest and the ministrations of Father Time and Mother Nature. So it is with later statistics. In 1917, Baer of Johns Hop-

[†] Moxa, a . . . substance prepared from the leaves of Chinese species of woodworm used as a cautery by igniting on the skin. The New Century Dictionary, Page 1103. D. Appleton.

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EDITORIALS

Alcohol and Man

Considering the prevalence of alcohol in the national diet, the incompleteness of our knowledge concerning both the biochemistry and pharmacology of this substance is worthy of remark. Biochemists in particular have fought shy of work on alcohol, while much of the research into the effects of the drug on the nervous system has been more emotional than objective. As a matter of fact it has been apparent to some of those working with alcohol that their colleagues believe the field of alcohol research to be in some vague way immoral. Moreover, the medical literature leaves no doubt that the publication of findings regarding the effect of alcohol on the human nervous system not in consonance with the beliefs of those long established in the field calls forth a storm of criticism of an acid type, but little objective evidence by the critics in refutation.

In spite of this situation, our knowledge of the metabolism of alcohol, and of its effect on the nervous system, has been considerably enriched in the past fifteen years. Considering the first of these subjects, it has now been shown beyond any doubt that at least the primary step in the oxidation of alcohol takes place in the liver, although brain and possibly some other tissues may participate to a very limited degree. Thus liver tissue *in vitro* and the perfused liver both are capable of oxidizing alcohol, the final product being acetic acid. Presumably in the intact animal this is further burned to carbon dioxide and water, although the possibility that there are other pathways of metabolism which can result in storage of energy derived from alcohol is by no means a remote one. Actually, there are several things which tie in the metabolism of alcohol with that of carbohydrate. Thus it has been shown

that a prolonged fast will considerably reduce the rate of alcohol metabolism, but that the administration of a single dose of glucose promptly returns the rate to normal. Thus it would seem that the simultaneous oxidation of carbohydrate enhances the burning of alcohol. Along the same lines, administration of insulin will increase the burning of alcohol about 50 per cent. It would be remarkable should insulin, with its specific function in carbohydrate metabolism, be able also to influence directly the metabolism of alcohol; more likely seems the possibility that the effect of insulin on carbohydrate metabolism secondarily influences the rate of burning of alcohol. A link between the metabolism of these two substances has been found *in vitro*. Thus it has been shown that there is a coupled oxidation-reduction reaction involving alcohol and pyruvate, which is a known link in the metabolism of carbohydrate. In this reaction the oxidation of alcohol to acetaldehyde is accomplished while pyruvate is reduced to lactate. That this reaction takes place *in vivo*, and may be important in the metabolism of alcohol, is indicated by the fact that in the intact animal the rate of alcohol combustion is accelerated by administration of pyruvate. Further work in this direction may solve the problem as to whether the energy derived from alcohol may be stored or utilized for any other purpose than the production of heat.

One can no longer provoke an argument as to whether alcohol is a stimulant or a depressant; all the data at hand indicate that from the outset the effect of alcohol on the nervous system is that of depression. The apparent stimulation seen in social drinking is customarily explained as being due to

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NOTICES AND REPORTS

C. M. A. POSITION ON REBATING

The following resolution was adopted by the Council of the California Medical Association, December 21, 1947.

"In its continued efforts to protect the public the California Medical Association serves emphatic notice that it is both unjust and a violation of medical ethics for doctors to receive rebates of any portion of fees or costs of medical appliances, drugs, eye-glasses, x-ray or laboratory procedures which have been prescribed or recommended by them. It is equally unethical for physicians to give or to participate in rebates of fees.

"The California Medical Association has received reliable reports that rebating practices still exist among some unethical physicians who constitute a small percentage of the profession.

"This statement is made for the information of all groups and individuals interested in public welfare in our campaign to eliminate this abuse and to enforce the honest practice of medicine.

"The public should be advised that an ethical doctor bills his patients directly for his services and cannot receive other recompense under any guise whatever.

"The Council of the California Medical Association has addressed a letter to each of the forty component county medical societies calling this situation to its attention and requesting that the county societies take appropriate disciplinary action in the instance of any violation of this principle."

Council Meeting Minutes

Tentative Draft: Minutes of the 347th Meeting of the Council of the California Medical Association, San Francisco, December 20-21, 1947.

The meeting was called to order by Vice-Chairman Sidney J. Shipman at 10 a.m., Saturday, December 20, 1947, in the St. Francis Hotel, San Francisco.

1. Roll Call:

Present were President Cline, President-Elect Askey, Speaker Alesen, Vice-Speaker Charnock, Councilors Shipman, Ball, Crane, Henderson, Anderson, Lum, MacDonald, Green, Cherry, MacLean, Bailey and Thompson, Secretary-Treasurer Garland, and Editor Wilbur. Absent, Councilors Bruck (illness), Kneeshaw and Hoffman.

Present by invitation were Doctor Dwight H. Murray, Chairman of the Committee on Public Policy and Legislation; Doctor C. L. Cooley, Secretary of California Physicians' Service; Mr. John Hunton, Executive Secretary; Mr. Ben Read, Executive Secretary of the Public Health League of California; Mr. Howard Hassard, Legal Counsel; Mr. Clem

Whitaker, public relations counsel; Mr. William M. Bowman, Executive Director of California Physicians' Service; Mr. Herbert A. Dady, Advertising Manager of CALIFORNIA MEDICINE; and county executive secretaries Rollen Waterson of Alameda County, Frank H. Kihm of San Francisco County, Kenneth Young of San Diego County and Joe Donovan of Santa Clara County.

A quorum was declared present and acting.

2. Approval of Minutes:

(a) On motion duly made and seconded, the minutes of the 346th Council meeting, held September 20-21, 1947, were approved.

(b) On motion duly made and seconded, the minutes of the 205th Executive Committee meeting, held November 9, 1947, were approved.

3. Membership:

(a) A report of membership as of December 19, 1947, was received, showing 8,916 members. Attention was called to the fact that at the approach of